

REPORT-

CD NO.

50X1-HUM

COUNTRY	USSR
SUBJECT	Economic - Machine tools
HOW PUBLISHED	Monthly periodical
WHERE PUBLISHED	Moscow
DATE PUBLISHED	Apr 1949
LANGUAGE	Russian

DATE OF INFORMATION 1949

DATE DIST. 18 Jul 1949

NO. OF PAGES 2

SUPPLEMENT TO  
REPORT NO.

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE OF THE UNITED STATES WITHIN THE MEANINGS OF ESPIONAGE ACT 50 U. S. C. 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PROHIBITED. REPRODUCTION OF THIS FORM IS PROHIBITED.

THIS IS UNEVALUATED INFORMATION

SOURCE      Sovetskaya kniga, No 4, 1949.

NEW SOVIET BOOKS ON MACHINE TOOLS

G. B. Lur'yø

[Review of G. I. Ianetskiy's Skorostnaya obrabotka metallov rezaniyem (High-Speed Metal Cutting), V. M. Gerst and P. I. Popov's Skorostnaya obrabotka metallov na mashinostroitel'nom zavode (High-Speed Metal Cutting at a Machine-Building Plant), N. K. Petrov and P. P. Romanov's Nabory frez v seriyom mashinostroyeni (Sectional Cutters in Series Machine Building), A. S. Azarov's Avtomatizatsiya obrabotki na tokarnykh stankakh (Automatic Lathes), and V. I. Trapi-tayn's Avtomaticheskiye stanochnyye lini v mashinostroyeni (Automatic Transfer Machine Lines in Machine Building), Moscow-Leningrad Mashgiz, 1948.]

In his booklet, G. I. Lanetskiy described the development, perfection, and introduction into production of high-speed cutting methods during the past few years.

The reasons for microscopic cracks appearing when grinding hard alloy plates were not accurately explained.

In one section of the booklet, an error was made in calculating the increase in productivity by means of comparing the time of machine operation with the time it takes to machine a part. In this connection, more attention should have been given to the design of attachments which would effect a decrease in the time required for auxiliary operations.

The chapter on high-speed thread cutting contains nothing new in comparison with the thorough works of B. G. Levin and A. M. Fratkin in their book, Skorostnoy metod narezaniya rez'by (High-Speed Thread-Cutting Method), 1948.

**CONFIDENTIAL**

## CLASSIFICATION

[illegible]

**CONFIDENTIAL**

50X1-HUM

The booklet by V. M. Gerst and P. I. Popov deals with high-speed milling, grinding, and thread cutting.

Taking into account the introduction of high-speed methods, the authors briefly discuss the basic difficulties encountered in the attempt to perfect high-speed metal cutting.

Results of research on cutting methods are given; in particular are diagrams showing how durability depends on cutting speed, gear feed (padachi na zub), depth of cut, and other factors.

Being familiar with the use of high-speed cutting methods in machining individual machine parts, the authors emphasize that the transition to high-speed cutting of parts in relatively short machining time makes it necessary to replace equipment for greater efficiency.

N. K. Petrov and P. P. Romanov theorized on the experience of a number of plants on series production which has shown the introduction of sectional cutters to be especially effective.

In the first chapter they explain sectional cutters, their importance, and fields of application. Later the authors bring in plant specifications for mandrels and rings for these cutters, and explain their classifications. They deal with the basic designs of sectional cutters, the accuracy reached by them while working, and the tolerance for each section comprising the cutter. In connection with the above problem, the book includes information on methods for determining tolerance for outside diameters of sectional cutters while machining two- and multistage profile parts and for determining the width and tolerance for the manufacture of slot mills.

A. S. Azarov's booklet deals with automatic checking devices for universal lathes.

V. I. Trapitsyn made the first attempt to give the general characteristics of automatic-transfer machine lines and briefly described ways of making automatic the mechanisms for these lines. He also described the automatic-transfer machine lines which are in operation in the USSR and in the US, citing brief data about the automatic-transfer machine lines in automaticized shops and plants.

In his book, he erroneously states that automatic-transfer machine lines for machining blocks for low-powered automobiles have been set up at the ZIS (Plant imeni Stalin).

- E N D -

- 2 -

**CONFIDENTIAL**